

Struktur Komunitas Collembola pada Tiga Tipe Habitat Sepanjang Daerah Aliran Sungai Brantas Hulu Kota Batu

The Community Structure of Collembola in Three Habitats Type Along the Upstream Brantas River Basin of Batu City

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Abstract: Collembola is one of a group of animals that generally live on the surface and in the soil. Collembola have an important role in the ecosystem due to its function as a consumer subsystem and decomposition subsystem that can be used as bio-indicators. Changing in habitat in the upstream of Brantas River Basin is cause disruption for Collembola community. This is a descriptive research, aims to uncover the information of community structure, including the type found, diversity, evenness, and relative abundance of Collembola in three type habitats (forest, agricultural, and residential). Soil sampling conducted in each habitat type using TBSF methods. Identification of Collembola samples conducted at the Biology Laboratory of UMM and verified at Basic Entomology Laboratory, Gadjah Mada University. This study results are; (1) the number of Collembola were found in forest were 21, agriculture were 5, and residential were 17. (2) There is difference in descriptive diversity of Collembola in forest, agricultural, and residential. Collembola species diversity index of forest higher (2.78) compared to agriculture (1.16) and residential (2.42). Forest and residential habitat have moderate diversity, while agriculture has a low diversity. (3) There is difference in descriptive evenness of Collembola in forest, agricultural, and residential. Evenness index Collembola in forest was higher (0.91) than agriculture (0.72) and residential (0.85). Evenness of Collembola in residential is higher than agriculture. All types of habitat, including having a high evenness. (4) There are differences in the relative abundance of descriptive Collembola in forest, agricultural, and residential. Relative abundance of forest, agricultural, and residential varied. The highest relative abundance in forest is *Hypogastrura consanguinea*, *Ascocyrtus* sp, and *Homidia cingula*. The highest relative abundance in agriculture is *Pseudachorutes javanicus*, *Isotomurus palustris*, and *Ascocyrtus* sp. The highest relative abundance in residential is *Ascocyrtus* sp., *Cryptopygus thermophilus*, and *Isotomurus palustris*.

Keywords: Community structure, Collembola, Brantas river

Keterangan: Naskah diterbitkan dalam Jurnal Bioedukasi Pendidikan Biologi FKIP UNS

